CW#71: 45-45-90 Triangles Pt. II

Geometry

CLASSROOM COPY – DO NOT WRITE ON THIS!!! Complete in notebook.

*Launch*Big Prediction: If the hypotenuse of the triangle was 100, what would the side lengths be?

Directions: Copy the following image in your notebook:

|  |  |  |
| --- | --- | --- |
| 1  2 | 4  2 | 3    6 |

*Explore*

|  |
| --- |
| 1. How are these three images different than the ones we looked at yesterday? (hint: Look in your notes) 2. Draw and label the sides and angles of the next two triangles in this pattern. 3. Predict: If the hypotenuse of a right triangle was 100 cm, what would you predict the length of the sides to be? What must be true about the angles inside the triangle for your prediction to be true? |
| 1. Rule #2: Generalize your observations and create a rule you could use to find the length of the legs of the hypotenuse of any \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangle with side length *n*.   Draw a picture and an example to go with your rule. |

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Geometry

*Practice*

Bronze

|  |  |  |
| --- | --- | --- |
| Find x. | Find the missing side lengths.  ../../../../../Desktop/Screen%20Shot%202016-01-24%20at%209.32.53%20AM | Find x.  ../../../../../Desktop/Screen%20Shot%202016-01-24%20at%209.50.22%20AM |
| Find n and m.  ../../../../../Desktop/Screen%20Shot%202016-01-21%20at%207.40.17%20PM | Find x and y.  ../../../../../Desktop/Screen%20Shot%202016-01-24%20at%209.31.47%20AM | Find the missing side lengths.  ../../../../../Desktop/Screen%20Shot%202016-01-24%20at%209.32.56%20AM |

Silver

|  |  |
| --- | --- |
| Find t and u.  ../../../../../Desktop/Screen%20Shot%202016-01-24%20at%209.52.01%20AM | Describe and correct the error this student made in finding the hypotenuse.  ../../../../../Desktop/Screen%20Shot%202016-01-24%20at%209.52.31%20AM |

Silver Practice Continued…

|  |  |
| --- | --- |
| You are creating a quilt that will have a traditional “Flying geese” border, as shown below.   1. Find all the angle measures of the small blue triangles and the large orange triangles. 2. The width of the border is to be 3 inches. To crate the large triangle, you cut a square of fabric in half. Not counting extra fabric for seams. What size square do you need? *(answer should be in inches squared)* 3. What size square do you need to create each small triangle? *(answer should be in inches squared)* | ../../../../../Desktop/Screen%20Shot%202016-01-24%20at%209.58.48%20AM |